

RECEIVED
CENTRAL FAX CENTER10/564,742
G12-197996C/KK

2

AUG 11 2009

AMENDMENTS TO THE CLAIMS:

Please cancel claim 22 without prejudice or disclaimer.

1. (Currently amended) A positive active material comprising:
base particles able to dope and release lithium ions; and
at least one element selected from the group consisting of Gd, La, Ce and Yb on at least part of a part of the base particles which is able to come into contact with an electrolyte,
wherein said at least one element is formed on a surface of said base particles, and is not incorporated in said base particles.
2. (Previously presented) The positive active material of claim 1, wherein said at least one element comprises a chalcogen compound.
3. (Previously presented) The positive active material of claim 1, wherein said at least one element comprises an oxygen-containing compound.
4. (Previously presented) The positive active material of claim 1, wherein the base particles comprise LiCoO_2 .
5. (Previously presented) The positive active material of claim 1, wherein the base particles comprise a lithium-transition metal composite oxide having an $\alpha\text{-NaFeO}_2$ type crystal structure and represented by the composite formula $\text{Li}_x\text{Mn}_a\text{Ni}_b\text{Co}_c\text{O}_d$ (wherein $0 \leq x \leq 1.3$, $a+b+c=1$, $|a-b| \leq 0.03$, $0 \leq c < 1$, and $1.7 \leq d \leq 2.3$).
6. (Withdrawn-Currently amended) A process for producing the positive active material of claim 1, comprising:
producing base particles which contain lithium and are able to dope and release lithium ions; and

10/564,742
G12-197996C/KK

3

imparting said at least one element to the base particles such that the element can be present on at least part of that part of the base particles which is able to come into contact with an electrolyte.

7. (Withdrawn-Currently amended) A process for producing the positive active material of claim 1, comprising:

producing base particles which contain lithium and are able to dope and release lithium ions; and

mixing a solution which contains the base particles and the pH of which has been regulated by the addition of a lithium ion-containing alkalinity regulator with a "deposition reaction liquid" containing said at least one element to thereby deposit a compound containing said at least one element on the base particles in the solution and impart said at least one element to the base particles so that said at least one element can be present on at least part of that part of the base particles which is able to come into contact with an electrolyte.

8. (Withdrawn) The process for producing a positive active material of claim 7, wherein the solution has been regulated so as to have a pH of 11-12 by the addition of the lithium ion-containing alkalinity regulator.

9-12. (Canceled)

13. (Previously presented) A positive electrode for lithium secondary batteries, comprising: the positive active material of claim 1.

14. (Previously presented) A lithium secondary battery, comprising:
the positive electrode for lithium secondary batteries of claim 13;
a negative electrode employing a negative-electrode material able to dope and undope lithium ions; and

10/564,742
G12-197996C/KK

4

a non-aqueous electrolyte.

15. (Previously presented) The lithium secondary battery of claim 14, which is for use at an upper-limit voltage of 4.3 V or greater.

16. (Previously presented) The lithium secondary battery of claim 15, wherein the negative electrode comprises a carbon material and employs the negative active material such that the electrochemical capacity of the lithium ions able to be doped by the negative active material is from 1.05 times to less than 1.50 times the electrochemical capacity of the lithium ions able to be released by the positive electrode when the battery is used at the upper-limit voltage.

17. (Previously presented) The positive active material of claim 2, wherein the base particles comprise LiCoO_2 .

18. (Previously presented) The positive active material of claim 2, wherein the base particles comprise a lithium-transition metal composite oxide having an $\alpha\text{-NaFeO}_2$ type crystal structure and represented by the composite formula $\text{Li}_x\text{Mn}_a\text{Ni}_b\text{Co}_c\text{O}_d$ (wherein $0 \leq x \leq 1.3$, $a+b+c=1$, $|a-b| \leq 0.03$, $0 \leq c < 1$, and $1.7 \leq d \leq 2.3$).

19. (Withdrawn-Currently amended) A process for producing the positive active material claim 2, comprising :

producing base particles which contain lithium and are able to dope and release lithium ions; and

imparting said at least one element to the base particles such that the element can be present on at least part of that part of the base particles which is able to come into contact with an electrolyte.

20. (Withdrawn-Currently amended) A process for producing the positive active material of

10/564,742
G12-197996C/KK

5

claim 2, comprising:

producing base particles which contain lithium and are able to dope and release lithium ions; and

mixing a solution which comprises the base particles and the pH of which has been regulated by the addition of a lithium ion-containing alkalinity regulator with a "deposition reaction liquid" comprising said at least one element to thereby deposit a compound comprising said at least one element on the base particles in the solution and impart said at least one element to the base particles so that said at least one can be present on at least part of that part of the base particles which is able to come into contact with an electrolyte.

21. (Previously presented) The positive active material of claim 1, wherein a weight percent of said at least one element in terms of oxide is in a range from 0.05% to 4% of a total weight of said base particles and said at least one element in terms of oxide.

22. (Canceled)

23. (Previously presented) The positive active material of claim 1, wherein said at least one element is formed on an entire surface of said base particles.

24. (Currently amended) A positive active material, comprising:
base particles able to dope and release lithium ions; and
at least one element selected from the group consisting of Gd, Y, La, Ce and Yb formed on a surface of said base particles and not incorporated ~~present other than as a dopant~~ in said base particles.